PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
022916.0003PCT		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US02/20362	26 June 2002 (26.06.2002)	

International Patent Classification (IPC) or national classification and IPC

IPC(7): F23G 5/12 and US Cl.: 110/219

Applicant

WALKER, WILLIAM C.

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

   ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of ___ sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the report
   - II ☐ Priority
   - III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
21 January 2004 (21.01.2004)	16 August 2004 (16.08.2004)

Name and mailing address of the IPEA/US
Mail Stop PCT, Attn: IPEA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (703) 305-3230

Authorized officer
Kenneth Rinehart
Telephone No. 703-308-0861

Sheila H. Veney
Paralegal Specialist
Tech. Center 3700

Form PCT/IPEA/409 (cover sheet)(July 1998)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application
PCT/US02/20362

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed.

☒ the description:
pages 1-20 as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

☒ the claims:
pages 21-24, as originally filed
pages NONE, as amended (together with any statement) under Article 19
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

☒ the drawings:
pages 1-14, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

☐ the sequence listing part of the description:
pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination(under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

☒ the description, pages NONE

☒ the claims, Nos. NONE

☒ the drawings, sheets/~~fig~~ NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

** Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*
*** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International applicati
PCT/US02/20362

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims	3, 4, 6-17	YES
	Claims	1, 2, 5	NO
Inventive Step (IS)	Claims	6, 8, 13, 14	YES
	Claims	1-5, 7, 9-12, 15-17	NO
Industrial Applicability (IA)	Claims	1-17	YES
	Claims	NONE	NO

2. CITATIONS AND EXPLANATIONS
Please See Continuation Sheet

Supplemental Box
(To be used when the space in any of the preceding boxes is not sufficient)

V. 2. Citations and Explanations:
Please See Continuation Sheet

The applicant's arguments are not found persuasive. The Noland reference shows heating means of items 32, 34, 35, 16, and 17 which comprises a thermal oxidizer connected to said thermal reactor for initially heating said reaction chamber. Regarding the publication issue, the applicant should call 703-305-3257 for information on this matter.

Claims 1, 2, and 5 lack novelty under PCT Article 33(2) as being anticipated by Noland (Re. 33,776). Noland shows a thermal reactor (15, figure 1), feed means (12, figure 1), conveyor means (15, figure 1), and heating means (16, 32, figure 1), a thermal oxidizer (32, 20, 17, figure 1), a pair of conveyor mechanisms (column 2, line 64), a waste receiver hopper (10, figure 1), and a feed screw (12, 15, figure 1).

Claim 1 lacks novelty under PCT Article 33(2) as being anticipated by Jones (4,917,023). Jones shows a thermal reactor (20, figure 1), feed means (12, figure 1), conveyor means (14, figure 1), and heating means (24, figure 1), thermal oxidizer (32, 34, figure 1, dotted line leading from 34 to 20).

Claim 4 lacks an inventive step under PCT Article 33(3) as being obvious over Jones (4,917,023) in view of Loken (3,954,069). Jones discloses a thermal reactor (20, figure 1), feed means (12, figure 1), conveyor means (14, figure 1), and heating means (24, figure 1), thermal oxidizer (32, 34, figure 1, dotted line leading from 34 to 20). Jones discloses applicant's invention substantially as claimed wit the exception of drying means. Loken teaches (2, 4, fig. 1, column 2, lines 39-49) for the purpose of improving the efficiency of the system. It would have been obvious to one of ordinary skill in the art to modify Jones by including drying means as taught by Loken for the purpose of improving the efficiency of the system.

Claims 3 and 7 lack an inventive step under PCT Article 33(3) as being obvious over Jones (4917023) in view of Bayer et al (5,376,340). Jones discloses a thermal reactor (20, figure 1), feed means (12, figure 1), conveyor means (14, figure 1), and heating means (24, figure 1), thermal oxidizer (32, 34, figure 1, dotted line leading from 34 to 20). Jones discloses applicant's invention substantially as claimed with the exception of first and second subchambers divided by baffle means. Bayer et al teaches first and second subchambers divided by baffle means (42, 30, 52, 42, 30, figure 1) for the purpose of preventing pollutants form entering the atmosphere. It would have been obvious to one of ordinary skill in the art to modify Jones by including first and second subchambers divided by baffle means as taught by Bayer et al for the purpose of eliminating pollutants and thus meet environmental regulation regarding air pollution.

Claim 10 lacks an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Martin (5,921,763). Jones in view of Bayer et al discloses applicant's invention substantially as claimed with the exception of steam driven turbine. Martin teaches a steam driven turbine (col. 9, lines 4-10) for the purpose of

Supplemental Box
(To be used when the space in any of the preceding boxes is not sufficient)

providing a more energy efficient system. It would have been obvious to one of ordinary skill in the art to modify Jones by including a steam driven turbine as taught by Martin for the purpose of providing a more energy efficient system.

Claim 9 lacks an inventive step under PCT Article 33(3) as being obvious over Jones (4,917,023) in view of Sardari et al (5,088,424). Jones discloses a thermal reactor (20, figure 1), feed means (12, figure 1), conveyor means (14, figure 1), and heating means (24, figure 1), thermal oxidizer (32, 34, figure 1, dotted line leading from 34 to 20). Jones discloses applicant's invention substantially as claimed with the exception of a steam generating means. Sardari et al teaches a steam generating means (column 7, lines 24-26) for the purpose of providing a more energy efficient system. It would have been obvious to one of ordinary skill in the art to modify Jones by including a steam generating means as taught by Sardari et al for the purpose of providing a more energy efficient system.

Claims 11 and 12 lack an inventive step under PCT Article 33(3) as being obvious over Noland (Re. 33,776) in view of Bayer et al (5,376,340) and Loken (3,954,069). Noland discloses a thermal reactor (15, figure 1); feed means (12, figure 1), conveyor means (15, figure 1), said conveyor means comprises a pair of conveyor mechanisms rotatably mounted within said reaction chamber in a side by side relationship (column 2, lines 64); and heating means (16, 32, figure 1), a thermal oxidizer connected to said thermal reactor (32, 20, 17, figure 1), a waste receiving hopper connected to said thermal reactor (10, figure 1); and a feed screw (12, 15, figure 2). Noland discloses applicant's invention substantially as claimed with the exception of said thermal oxidizer includes first and second subchambers divided by a baffle means for controlling the flow of gases between the first and second subchambers, drying means. Bayer teaches said thermal oxidizer includes first and second subchambers divided by a baffle means for controlling the flow of gases between the first and second subchambers (42, 30, 52, fig. 1) for the purpose of preventing pollutants form entering the atmosphere. It would have been obvious to one of ordinary skill in the art to modify Noland by including said thermal oxidizer includes first and second subchamber divided by a baffle means for controlling the flow of gases between said first and second subchambers as taught by Bayer et al for the purpose of preventing pollutants from entering the atmosphere and thus meet environmental regulation regarding air emissions. Noland in view of Bayer et al discloses applicant's invention substantially as claimed with the exception of drying means operably associated with thermal reactor for drying the waste. Loken teaches drying means (2, figure 1) operably associated with thermal reactor (4, figure 1) for drying the waste (column 2, lines 39-49) for the purpose of improving the efficiency of the system. It would have been obvious to one of ordinary skill in the art to modify Noland by including drying means operably associated with thermal reactor for drying the waste as taught by Loken for the purpose of improving the efficiency of the system.

Claims 15-17 lack an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Martin (5,921,763). Noland in view of Bayer et al and Loken discloses applicant's invention substantially as claimed with the exception of including a steam generating means connected to said thermal oxidizer for generating steam using heating gases received from said thermal oxidizer a steam driven turbine, a water boiler, a source of water and a condenser. Martin teaches including a steam generating means (7, figure 1) connected to said thermal oxidizer (20, figure 1) for generating steam using heating gases received from said thermal oxidizer (figure 1) a steam driven turbine (78, figure 1), a water boiler (70, figure 1), a source of water (82, figure 1) and a condenser (80, figure 1) for the purpose of improving the efficiency of the system. It would have been obvious to one of ordinary skill in that art to modify Noland by including including a steam generating means connected to said thermal oxidizer for generating steam using heating gases received from said thermal oxidizer a steam driven turbine, a water boiler, a source of water and a condenser as taught by Martin for the purpose of improving the efficiency of the system.

Claims 6, 8, 13, and 14 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest the structure and sensing means as claimed.

Claims 1-17 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

---------- NEW CITATIONS ----------